READERS' CORNER

P.O.Box 190

We can only answer questions or remarks of general interest to our readers, concerning projects not older than two years and published in Elektor Electronics. In view of the amount of post and email received, it is not possible to answer all correspondence, and we are unable to respond to individual wishes and requests for modifications to, or additional information about, Elektor Electronics projects.

Missing DLLs?

Every month a number of readers inform us that certain system files are not included on diskettes supplied through our Readers Services, or in zip files downloaded from our website. In most cases, the problem is caused by the Windows Explorer which by default 'hides' system files. The solution is simple:

– Launch Windows Explorer
– Open the View menu
– Select 'Folder Options'
– Select 'View'
– With Hidden Files, tick the box 'Show All Files'

Having done this you should be able to see DLL's and other system files when using the Explorer.

IC Availability

Dear Editor — I have recently started to build your GBDSO and USB Audio DAC projects (October and December 2000 respectively, Ed.). Unfortunately I have been unable so far to obtain the following ICs: MC33182d, PCM2702E and OPA2353µA. Can you point me in the right direction?

R. Smith (by email)

Reportedly the MC33182d is hard to find. Fortunately, a near equivalent exists, the MC34182d which is a standard stock item with Farnell, Leeds. The problems with the PCM2702E and OPA2353mA were solved recently by C-I Electronics having obtained a certain quantity for one-off reselling.

Contact C-I Electronics by fax on +31 10 4861592 or by email dil@euronet.nl.

PC Audio

Dear Editor — Referring to your excellent Audio ADC2001 published in the March 2001 issue, I would like to add a tip that may be useful for PC-audiophiles like myself. I was fortunate to be able to test a number of soundcards with S/PDIF inputs and outputs. My conclusion was that some of these are less than perfect.

The first card I got my hands on was a Terratec EWS64 which appeared to work just fine although it employs an ISA slot. However, having made a recording, I found that the output signal was 3 dB lower than with playback (I refer to digital signal levels only), and this proved very hard to correct using the software. More seriously, a level difference of 0.5 dB was measured between the left and right channel.

The next card was an Audioworks 32 from Emagic. Although the signal quality was beyond reproach, the priority assigned to the drivers is far from ideal. It is not even possible to open the Windows Notepad without causing dropouts in the recorded or played back signal. The Emagic helpdesk kindly advised me to use the AISO drivers. Unfortunately Windows applications supporting these drivers are few and far between.

The last card was a DiO2448-man from M-audio. This card I found came up to all requirements. Moreover it is relatively inexpensive for a professional product, and 100 per cent stable. Not a single recording or playback error was noted, not even when scanning in a photograph in Adobe PhotoShop. The latest drivers also enable excellent MIDI reproduction. More info on this card on www.midiman.com.

Mark Wuyts, Netherlands

Electronics Online: Overclocking (June 2000)

Dear Editor — I enjoyed the informative and interesting article on overclocking in the May 2001 edition of Elektor Electronics. I am an overclocker myself, my first overclock was quite some time ago, overclocking a Pentium 1 166 MHz up to 233 MHz, and since then I've overclocked nearly every computer I've owned. I am currently working on a water-cooled, Peltier-assisted rig that will cool my motherboard chipset, CPU, and graphics card and RAM, in an attempt to get above the current spec I have, which is an AMD T-bird 1-GHz at 1.33 GHz. I hope to get as high as 1.5 GHz with water-cooling.

I cannot stress enough the importance of care and quality when overclocking. The current Athlon T-Bird CPUs are very delicate. the CPU core is ceramic and is very small. As a result the core can be cracked easily if too much force is applied to the chip. Taking heatsinks on and off regularly to replace them, or adjust the multiplier settings on the L1 Bridges is enough to crack the core, and as these are very expensive chips, inexperienced readers of elektor could easily do damage to them.

Another thing I feel I should add is that AMD CPUs are HOT, very hot. These things at default voltage dissipate more heat then the average 60 W light bulb, in an area that is only about 1 cm square. It is an absolute MUST that a heatsink should be on these when running. even booting into bios without a heatsink is enough to fry the CPU, so even if you are 'just checking' to see if your updated L1 modifications have worked, a heatsink has to be on. This applies to processors running at their default speed, not just overclocked ones.

Another point I must add is that when buying new heatsinks, most come with a TIM, or thermal interface material, glued to the heatsink base. These are OK if you are running at default speeds and voltages, but when overclocking they are a nuisance. I suggest removing them carefully with a razor blade and instead using a silicon or silver based heat transfer paste, as used with power transistors. This not only increases the heatsink's efficiency enough to drop its effective temperature by a few degrees, but also prevents from happening what I have seen on a few websites, where the TIM becomes so hot it melts like plastic and destroys the CPU.

I would suggest as another good overclocking website www.hardocp.com. The humour is a little strange, but the articles are informative. The website www.tomshardware.com is good too. As a final note, It is vital to keep track of your processor's temperature. The BIOS on most motherboards lets you do this, but the excellent **Motherboard Monitor** software available at http://mbm.livewiredev.com/ is vital for overclocking. It allows you to view temperatures from windows, generates log files, and can shut down the computer if any serious problems occur.

That's all I have to say, except that I urge new overclockers to trawl the web, read every article they can on overclocking, and ensure they know what they are getting into before they try.

I am very pleased with the recent articles on audio circuitry by the way. The Crescendo Millennium was good to see. I was considering building the original version a few years ago, and now I'm saving up to get the components for the new model. I also enjoyed the PPP Valve Power Amp in this month's edition (ref. June 2001, Ed.). Thanks for your time.

Conor Fitzpatrick
(by email)
(a.k.a freezin' fitz in the overclockers part of the web)